

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Kwon, Byoung

Examiner: C. Kaufman

Serial No.: 08/955,572

Group Art Unit: 1646

Filed: October 22, 1997

Docket: 740.013US2

Title: NEW RECEPTOR AND RELATED PRODUCTS AND METHODS

DECLARATION UNDER 37 C.F.R. § 1.131(b)

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

I, Byoung Kwon declare and say as follows:

1. I am the named inventor of the subject matter claimed in the above-identified patent application, U.S. application Serial No. 08/955,572, filed on October 22, 1997. Prior to the amendment to page 1 of the specification in the Amendment which accompanies this Declaration, page 1 stated that the present application is a division of U.S. application Serial No. 08/122,796, filed on September 16, 1993, which is a continuation-in-part of U. S. application Serial No. 08/012,269, filed on February 1, 1993, which is a continuation-in-part of U.S. application Serial No. 07/922,996, filed on July 30, 1992, which is a continuation-in-part of U.S. application Serial No. 07/267,577, filed on November 7, 1988. As amended, the above-identified application claims the benefit of the filing date of U.S. application Serial No. 08/122,796.

2. I received a Certificate in 1968, a D.D.S. in 1972, and a M.S. in Microbiology in 1974, from Seoul National University, Seoul, Korea. In 1981, I received a Ph.D. in microbiology from the Medical College of Georgia, Augusta, Georgia. From 1981-1984, I was a postdoctoral fellow in the Department of Human Genetics at Yale University School of Medicine, New Haven, Connecticut. I was the Head of Medical Genetics at the Guthrie Research Institute, Sayre, Pennsylvania, from 1984-1988. From 1988-1993, I was an Associate Professor in the Department of Microbiology and Immunology, Indiana University School of Medicine, Indianapolis, Indiana. I am currently a Professor in that same Department. I have

authored or co-authored over 100 papers, primarily in the areas of the molecular basis for pigmentation and the identification and characterization of molecules involved in lymphocyte activation and proliferation.

3. I have reviewed the Schwarz et al. document (Genbank Accession No: L12964) cited by the Examiner in the Office Action dated April 22, 1998, the Amendment filed herewith, and make this Declaration in support of the patentability of the claims of U.S. patent application Serial No. 08/955,572, as amended thereby.

4. Prior to the April 22, 1993 publication date of Schwarz et al., I had isolated and purified a portion of a human 4-1BB gene and thereafter proceeded diligently to characterize the full length gene.

5. Schwarz et al. disclose the nucleotide sequence and inferred amino acid sequence of a human cDNA termed ILA. The nucleotide sequence encodes a polypeptide that has a single amino acid substitution relative to SEQ ID NO:2 of the present application.

6. Exhibits A and B, attached hereto and incorporated by reference herein, are submitted as factual evidence of conception of the invention in the United States prior to the effective date of the above-mentioned reference coupled with due diligence from conception in the United States to constructive reduction to practice, as evidenced by the filing of U.S. application Serial No. 08/122,796, which is the parent application to the above-identified divisional application.

7. As factual evidence that the invention was conceived in the United States prior to the effective date of Schwarz et al., Exhibit A is a photocopy of an autoradiogram. Degenerate primers (such as those described at pages 14-15 of the present specification) and human lymphocytic RNA were employed in a reverse transcriptase-polymerase chain reaction to obtain an amplification product that corresponded to the human homolog of murine 4-1BB. The

products were separated by gel electrophoresis, transferred to a membrane filter and the filter probed with radiolabeled murine 4-1BB. The DNA in the hybridizing band was cloned and inserted into a vector which was then introduced to host cells. DNA in the vector transformed host cells was transferred to a membrane filter and the filter probed with radiolabeled murine 4-1BB, the results of which were recorded on an autoradiogram (Exhibit A). The experiment which produced Exhibit A was performed in my laboratory at Indiana University, Indianapolis, Indiana, USA. Exhibit A is dated prior to April 22, 1993 (date masked out).

8. Exhibit B is included as factual evidence that the invention as conceived was diligently pursued from a time preceding the effective date of Schwarz et al. to its constructive reduction to practice. Exhibit B is a photocopy of the filing receipt for Serial No. 08/122,796, which is the parent application to the above-identified divisional application. Exhibit B demonstrates that the invention disclosed in Exhibit A was diligently pursued from a time before the effective date of Schwarz et al., i.e., April 22, 1993, to a time approximately five months after the effective date of Schwarz et al., at which time the invention was constructively reduced to practice.

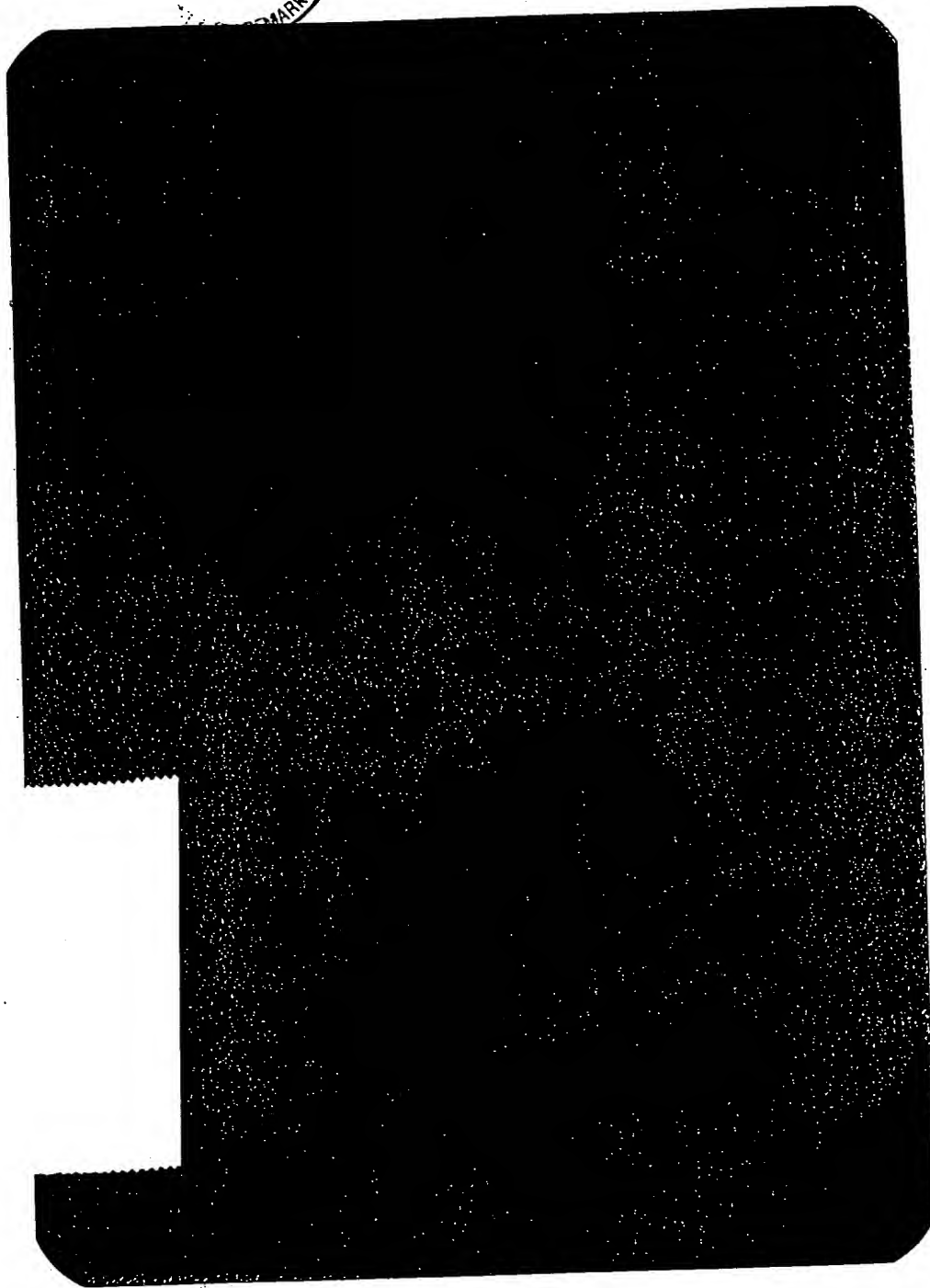
9. I further declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Dated: 10-21-98

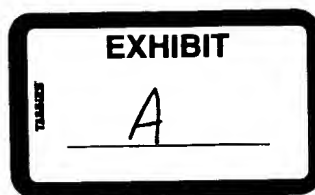
By: 

Byoung Kwon

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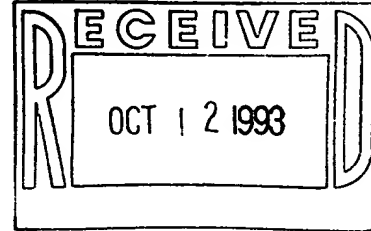
FILING RECEIPT



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
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APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTORNEY DOCKET NO.	DRWGS	TOT CL	IND CL
08/122,796	09/16/93	1813	\$540.00		5	18	8

BARNARD & BROWN
200 EAST BUFFALO STREET
SUITE 102A
ITHACA, NY 14850



Receipt is acknowledged of this patent application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Application Processing Division's Customer Correction Branch within 10 days of receipt. Please provide a copy of the Filing Receipt with the changes noted thereon.

Applicant(s) BYOUNG S. KWON, CARMEL, IN.

CONTINUING DATA AS CLAIMED BY APPLICANT-

THIS APPLN IS A CIP OF 08/012,269 02/01/93 740.9
WHICH IS A CIP OF 07/922,996 07/30/92 740.8
WHICH IS A CIP OF 07/267,577 11/07/88 ABN 740.6

FOREIGN FILING LICENSE GRANTED 10/01/93
TITLE
RECEPTOR AND RELATED PRODUCTS AND METHODS

* SMALL ENTITY *

PRELIMINARY CLASS: 435

